

REMARKS

Applicant has reviewed the Office Action mailed on July 24, 2004, as well as the art cited. Claim 19 has been added and claims 1, 5, 12, 14, 17 and 18 have been amended. Claims 1-19 are pending in this application.

Claim Objections

Claim 18 was objected to under 37 CFR 1.75 as being a substantial duplicate of claim 17. Claims 18 and 17 differ in at least one limitation, namely, claim 17 calls for "a tone map for mapping image data" and claim 18 calls for "a means for mapping the image data." Claims that are written in means-plus-function language have a different scope from claims that are not in means-plus-function form. Moreover, Claim 18 has been further amended to clarify a difference in scope by deleting at least one claim limitation. Therefore, claim 18 is not a substantial duplicate of claim 17. Withdrawal of the rejection is respectfully requested.

Rejections Under 35 U.S.C. § 102

Claims 1-4 were rejected under 35 USC § 102(a) as being anticipated by Sugimoto et al., (U.S. Patent No. 6,215,529). Applicant respectfully traverses this rejection.

Claim 1 has been amended to include the limitation of "selectively blending the transition between pixels in the image." There is nothing in Sugimoto that teaches blending of the transition between pixels in the image. Therefore, claim 1 is not anticipated by Sugimoto. Withdrawal of the rejection is respectfully requested.

Claims 2-4 depend from claim 1 and are therefore also patentable at least for the reasons identified above. Withdrawal of the rejection of claims 2-4 is respectfully requested.

Rejections Under 35 U.S.C. § 103

Claims 5-11 were rejected under 35 USC § 103(a) as being unpatentable over Ishikawa et al. (U.S. Patent No. 6,636,229) in view of Fuchsberger (U.S. Patent No. 4,831,434). Applicant respectfully traverses this rejection.

Claim 5 has been amended to call for "selecting at least two thresholds" and "transforming the color component of the pixel with a tone map when the color component of the

pixel is greater than one of the at least two thresholds, preserving the color component when the color component of the pixel is less than another of the at least two thresholds, and otherwise modifying the color component of the pixel to smooth the transition between color components of adjacent pixels.” There is nothing in the references, alone or in combination, that teaches or suggests the use of two thresholds in this manner to control the color components of pixels as claimed. Therefore, claim 5 is not obvious in view of the cited art. Withdrawal of the rejection of claim 5 is respectfully requested.

Claims 6-11 depend from claim 5 and thus are also allowable over the art at least for the reasons identified above. Withdrawal of the rejection is respectfully requested.

Claims 12 and 14 were rejected under 35 USC § 103(a) as being unpatentable over Hieda (U.S. Patent No. 5,481,317) in view of Fuchsberger (U.S. Patent No. 4,831,434). Applicant respectfully traverses the rejection.

Claim 12 specifies, in part, that:

the scanner [is] configured to output the raw digital data when the raw digital data is below a first pre-selected threshold, to output the corrected digital data only when the raw digital data is greater than a second pre-selected value, and to output digital data that is interpolated between the raw digital data and the corrected digital data when the raw digital data is between the two thresholds.

The references, alone or in combination, do not teach or suggest interpolating between raw digital data and corrected digital data when the raw digital data is between two thresholds.

Therefore, claim 12 is not obvious in view of the art. Withdrawal of the rejection is respectfully requested.

Claim 14 depends indirectly from claim 13 due to an amendment to correct a typographical error in the dependency of claim 14. Claim 14 is allowable at least for the reasons identified below with respect to claim 13.

Claim 16 was rejected under 35 USC § 103(a) as being unpatentable over Hieda (U.S. Patent No. 5,481,317) in view of Fuchsberger (U.S. Patent No. 4,831,434) as applied to claim 12 above, and further in view of Ishikawa et al. (U.S. Patent No. 6,636,229). Applicant respectfully traverses the rejection.

Claim 16 depends indirectly from claim 13 due to an amendment to correct a typographical error in the dependency of claim 14. Claim 16 is allowable at least for the reasons identified below with respect to claim 13.

Claims 17 and 18 were rejected under 35 USC § 103(a) as being unpatentable over Hieda (U.S. Patent No. 5,481,317) in view of Sugimoto et al. (U.S. Patent No. 6,215,529). Applicant respectfully traverses the rejection.

Claim 17 calls for:

a processor configured to map image data when the image data exceeds a predetermined value and configured to blend transitions in the image data.

The references, alone or in combination, do not teach or suggest a processor that blends transitions in the image data. Therefore, claim 17 is not obvious in view of the art. Withdrawal of the rejection is respectfully requested.

Claim 18 calls for:

a processor configured to map image data when the image data exceeds a predetermined value and configured to blend transitions in the image data.

The references, alone or in combination, do not teach or suggest a processor that blends transitions in the image data. Therefore, claim 18 is not obvious in view of the art. Withdrawal of the rejection is respectfully requested.

Claims 13 and 15 were rejected under 35 USC § 103(a) as being unpatentable over Farnung et al. (U.S. Patent No. 6,753,987) in view of Kishida (U.S. Patent No. 5,287,418). Applicant respectfully traverses this rejection.

Claim 13 is directed to a method of processing data contained in an array of pixels. Among other limitations, the method calls for “modifying the color component by interpolation.” The Examiner acknowledges that Farnung does not teach or suggest “modifying the midrange by interpolation.” The Examiner attempts to fill this gap in the teachings of Farnung with Kishida. The Examiner asserts that one skilled in the art would be motivated to combine Farnung and Kishida because Kishida discloses interpolation in a midrange region of a tone curve that “allows the desired contributions of regional tone curves to be selected for application to the overall tone curve.” Office Action, at p. 11.

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Title: METHOD AND APPARATUS FOR REDUCING INACCURACIES WHEN PROCESSING COLOR DATA WITH A TONE MAP

Applicant respectfully asserts that this rationale fails to provide a basis for combining the references. Farnung already provides a mechanism to adjust the tone map in the region of interest. As admitted by the Examiner, this mechanism is different from the claimed use of interpolation. The Examiner fails to explain why one of skill in the art would be motivated to use the "interpolation" technique of Kishida instead of the different technique described in Farnung. The Examiner fails to identify a problem in Farnung that would be solved by the change or a benefit from Kishida that is missing in Farnung. Therefore the combination is improper. Withdrawal of the rejection is respectfully requested.

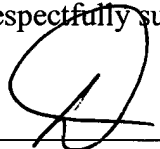
Claim 15 depends from claim 13, and, as such is also patentable at least for the reasons identified above.

CONCLUSION

Applicant respectfully submits that claims 1-19 are in condition for allowance and notification to that effect is earnestly requested. If necessary, please charge any additional fees or credit overpayments to Deposit Account No. 502432.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 332-4720.

Respectfully submitted,

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David N. Fogg
Reg. No. 35,138

Attorneys for Applicant
Fogg and Associates, LLC
P.O. Box 581339
Minneapolis, MN 55458-1339
T – (612) 332-4720
F – (612) 332-4731